WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5: C09B 31/147, 31/30, 33/18, 35/50, 5/02, 25/00, 3/74, 57/00, C09K 19/56, 19/58, 19/30, 19/32, 19/34

(11) International Publication Number:

WO 94/28073

A1 (43) International Publication Date:

8 December 1994 (08.12.94)

(21) International Application Number:

PCT/US94/05493

(22) International Filing Date:

20 May 1994 (20.05.94)

(81) Designated States: JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

(74) Agents: SHENKER, Michael et al.; Skjerven, Morrill,

MacPherson, Franklin & Friel, Suite 700, 25 Metro Drive,

(30) Priority Data:

93027586

21 May 1993 (21.05.93)

RU

(71) Applicant (for all designated States except US): RUSSIAN TECHNOLOGY GROUP [US/US]; Suite 214, 1670 S.

Amphlett Boulevard, San Mateo, CA 94402 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GVON, Khan Ir [RU/RU]; pr. Patsaeva, 14-26, Moscow Region, 141700, Dolgo-prudniy City (RU). BOBROV, Yuri A. [RU/RU]; Ze-lenograd., 906-128, Moscow, 103575 (RU). BYKOV, Victor A. [RU/RU]; Zelenograd., 815-200, Moscow, 103527 (RU). IGNATOV, Leonid Y. [RU/RU]; ul. Angarskaia, 20-3-81, Moscow, 127635 (RU). IVANOVA, Tatiana D. [RU/RU]; Zelenograd., 200-"G"-144, Moscow, 103305 (RU). POPOV, Sergei I. [RU/RU]; ul. Profsoyuznaia, 96-4-11, Moscow, 117485 (RU). SHISHKINA, Elena Y. [RU/RU]; ul. Angarskaia, 57-2-94, Moscow, 127412 (RU). VOROZHTSOV, Georgiy N. [RU/RU]; ul. Sadovaia-Spasskaia, 21-268, Moscow, 107078 (RU).

Published

With international search report.

San Jose, CA 95110 (US).

(54) Title: THERMOSTABLE AND LIGHTFAST DICHROIC LIGHT POLARIZERS

(57) Abstract

Polarizing coatings are formed from dyestuffs which provide a stable liquid crystalline phase in a wide range of concentrations, temperatures and pH-values. Particles formed by aggregates of the liquid crystal molecules are oriented in a predetermined direction to polarize light. The stability of the liquid crystalline state allows orienting the particles by mechanical forces such as a shearing force applied when the liquid crystal (10) is spread on a support surface (20) by a knife-like doctor (90) or a tension deformation force acting on the meniscus of the liquid crystal deposited between two surfaces (20, 30) as the surfaces are peeled off one another. As a result, the polarizing coatings are formed in some embodiments by simple methods. In some embodiments, the polarizing coatings have a high lightfastness, a high thermal stability, and a high dichroic ratio.